

NMMD Joint Program Office

NMMD Program Update to AIAA/BMDO Technology Readiness Conference



Cleared For Open Publication, Directorate
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Review, Department Of Defense

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Director, System Test and Evaluation

19981110 081

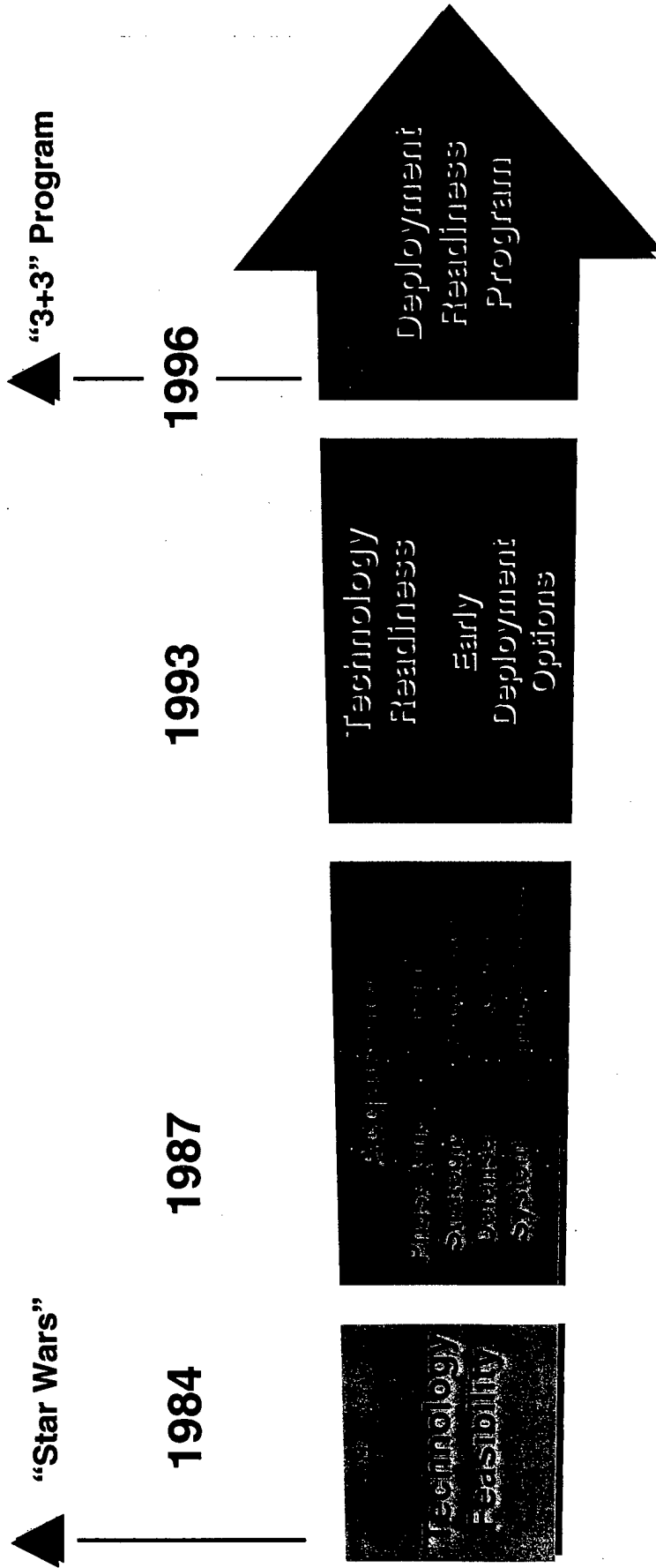


PURPOSE

**Provide Overview of the Ongoing National Missile
Defense Program to the AIAA/BMDO Technology
Readiness Conference**



NATIONAL MISSILE DEFENSE EVOLUTION



- Program Evolved from "Star Wars" Global Protection Vision
- To Hedge Against Emergence of Rogue Nation Ballistic Missile Threat to U.S.



NMD KEY CHALLENGES



- *Uncertain Threat* - Gaining Consensus on Threat Type and when Threat Will Emerge
- *Compressed Schedule* - Conduct FY99 Demo and Deploy if Directed By FY03
- *Treaty* - Compliant During Development; May Not Be for Deployment
- *System Integration* - Integrate Existing National Missile Defense Elements
- *Performance* - Ability to Protect All 50 States



ILLUSTRATIVE NMD THREAT

User Threshold

Few / Simple



Rogue Nation
Launches

Few / Complex



Rogue Nation & Small Accidental /
Unauthorized Launches

Many / Complex



**HEDGE
PROGRAM**

Capability 1

Capability 2

Capability 3

System Configuration

Proliferation Challenges to Missile Technology Control Regime (MTCR)

- CIA Report To Congress (1997)
 - Chinese Transfer Guidance Systems & Tools To Iran

- Rep Weldon's Comments On The Record (26 MAR 97)
 - Russian Guidance Systems To Iraq
 - SS-4 / SSN 19 Components To Iran

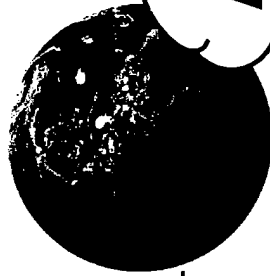
- Senate Proliferation Primer (JAN 98)
 - Jordan Seizes 115 Russian Guidance Systems (Nov 95)
 - UN Divers Seize 30 SSN-18 Gyroscopes In Tigris River



NMD PROGRAM DEFINING ASSUMPTIONS

• Sense of Urgency

- *Uncertain Threat*
 - NIE 95
 - Rumsfeld Commission

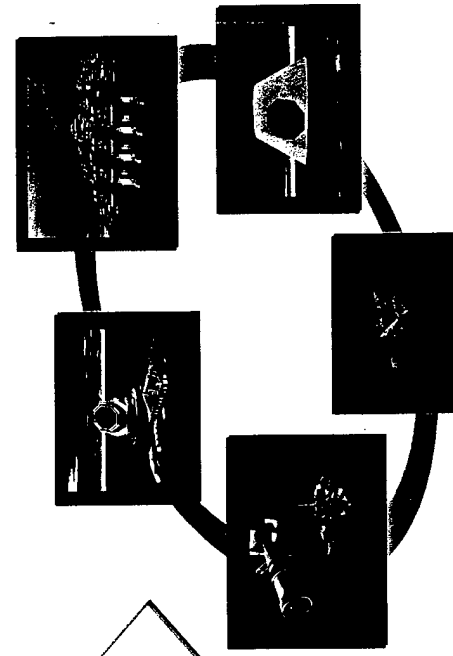


HEDGE PROGRAM

Rogue Nation Launches

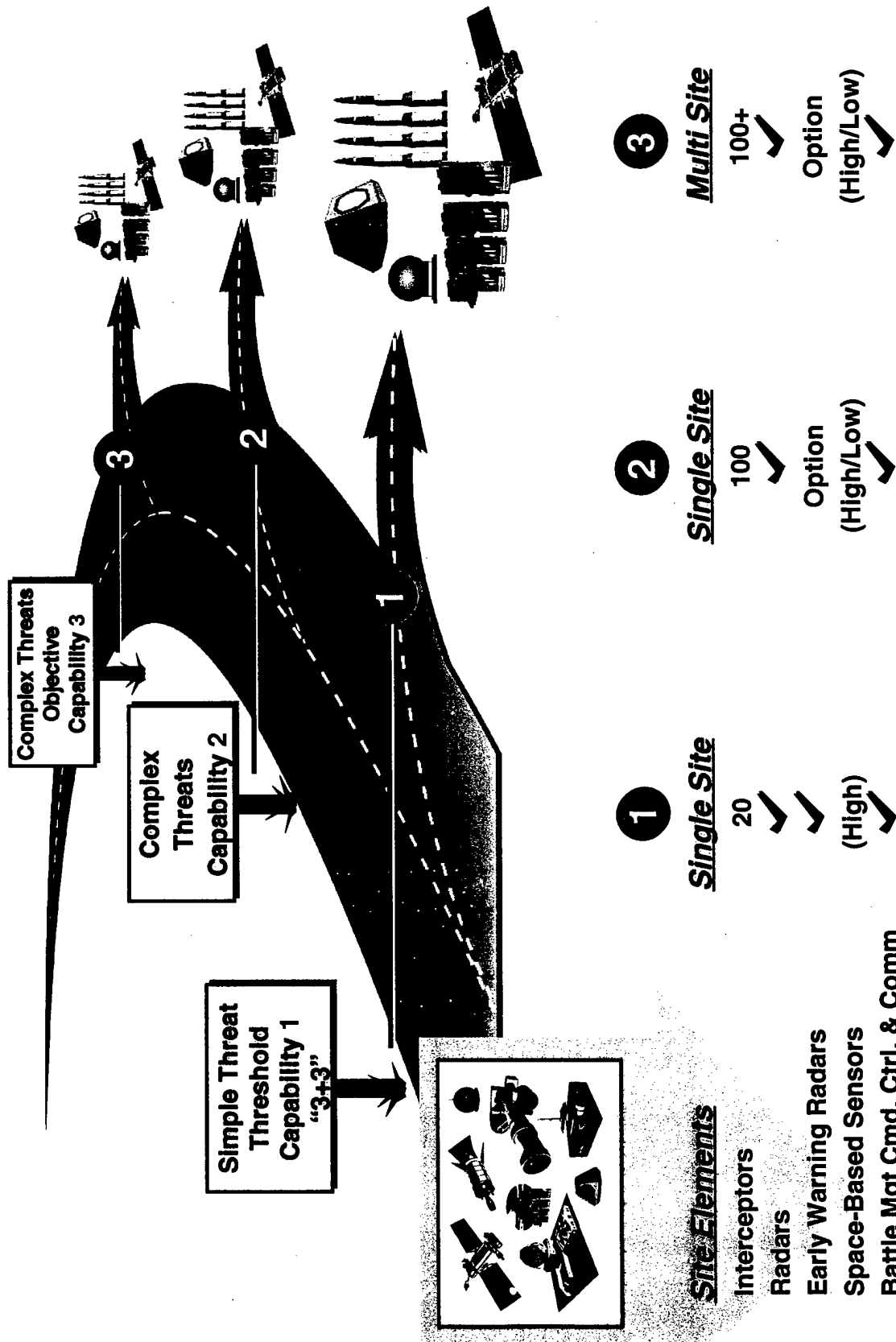
• NMD Requires a Systems Approach

- *Each Service has a Role*
- *USCINCSpace is the User*
- *Trade Requirements between Elements*





NMD ROADMAP





NMD PROGRAM STRATEGY



Joint
Program Office



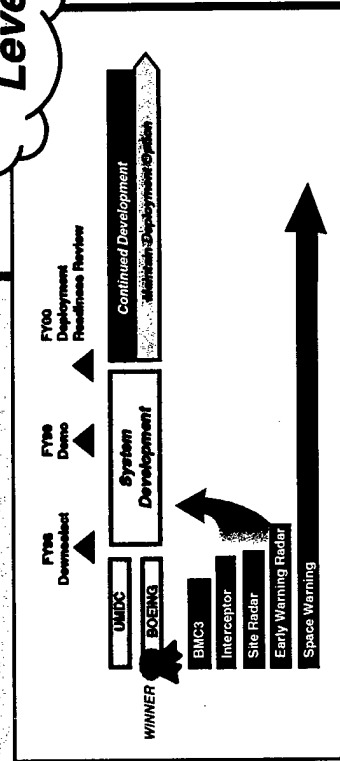
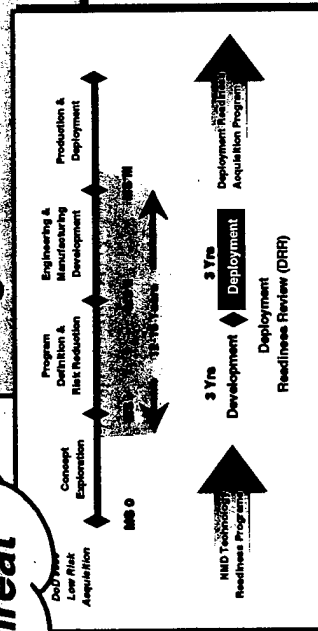
Management Approach

Program Structure

Uncertain
Threat

Contracting Approach

System
Level

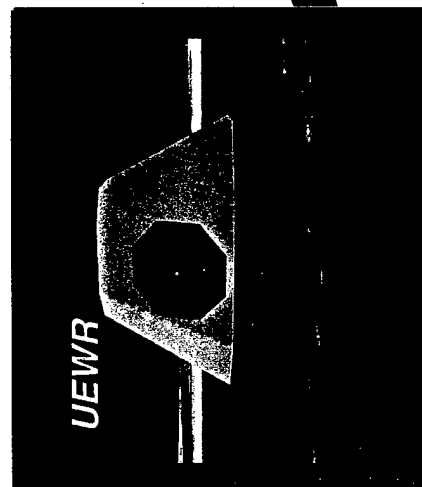
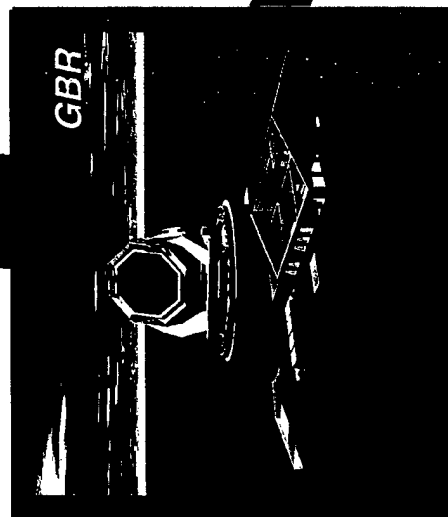
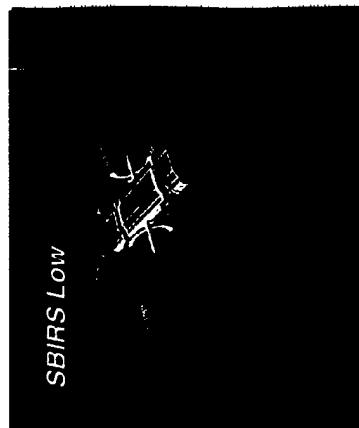
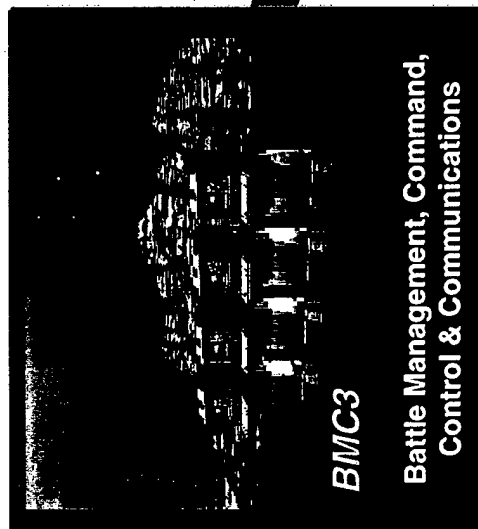
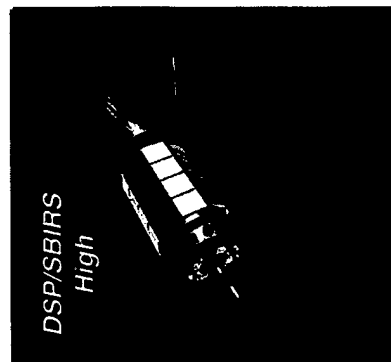


"3+3"

Lead System Integrator
(LSI)



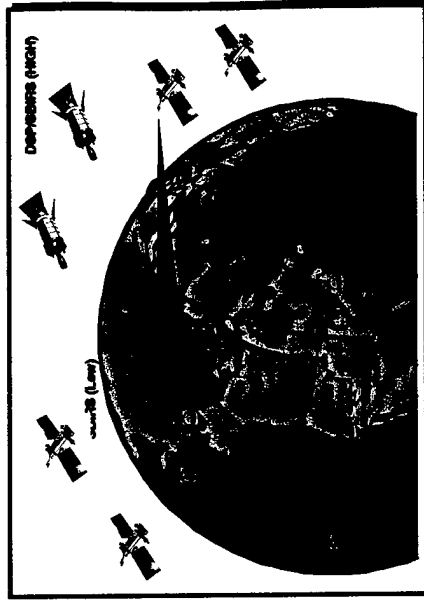
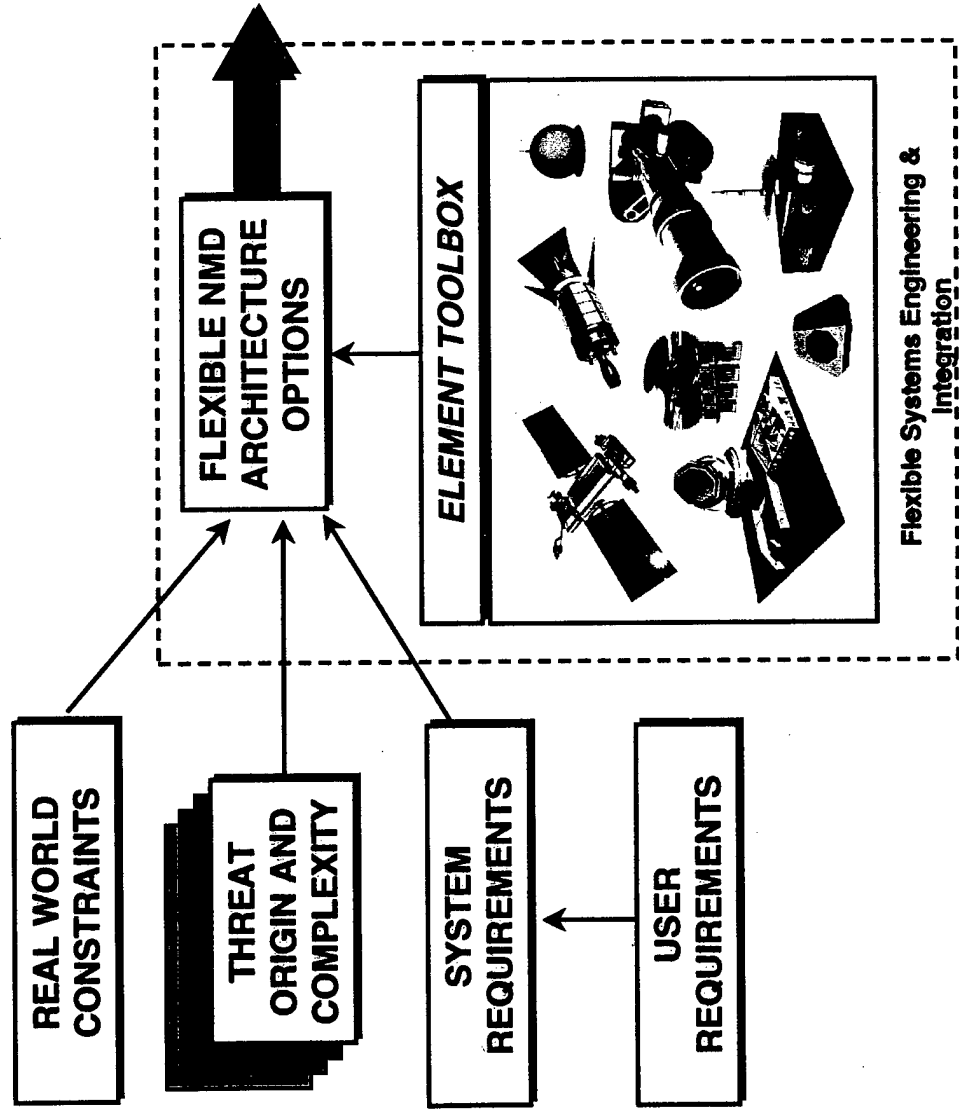
THE NMD SYSTEM ELEMENTS





NMD SYSTEM ARCHITECTURE

"Plug and Defend"



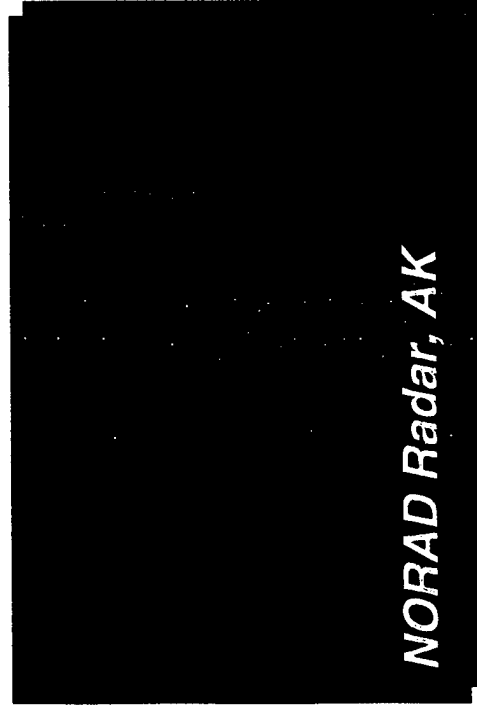
"Plug & Defend"
National Missile Defense
Deployment
Options to Respond to
Unknowns
in Threat and Constraints



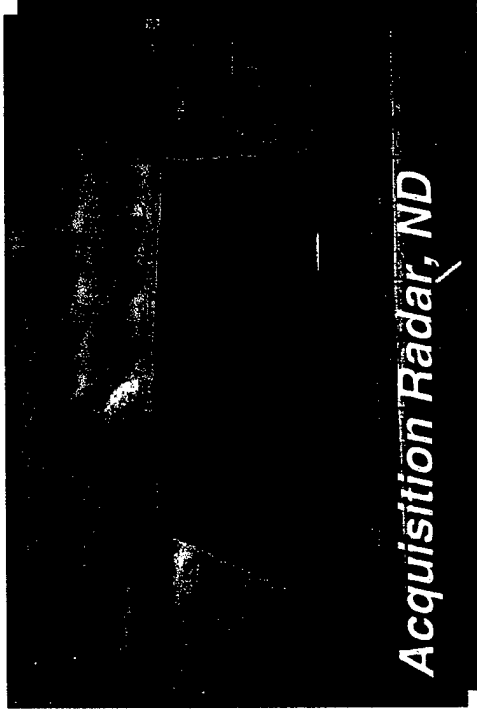
NMD SITE ACTIVITIES



- Fact Finding Visits Conducted in Both North Dakota and Alaska



NORAD Radar, AK



Acquisition Radar, ND

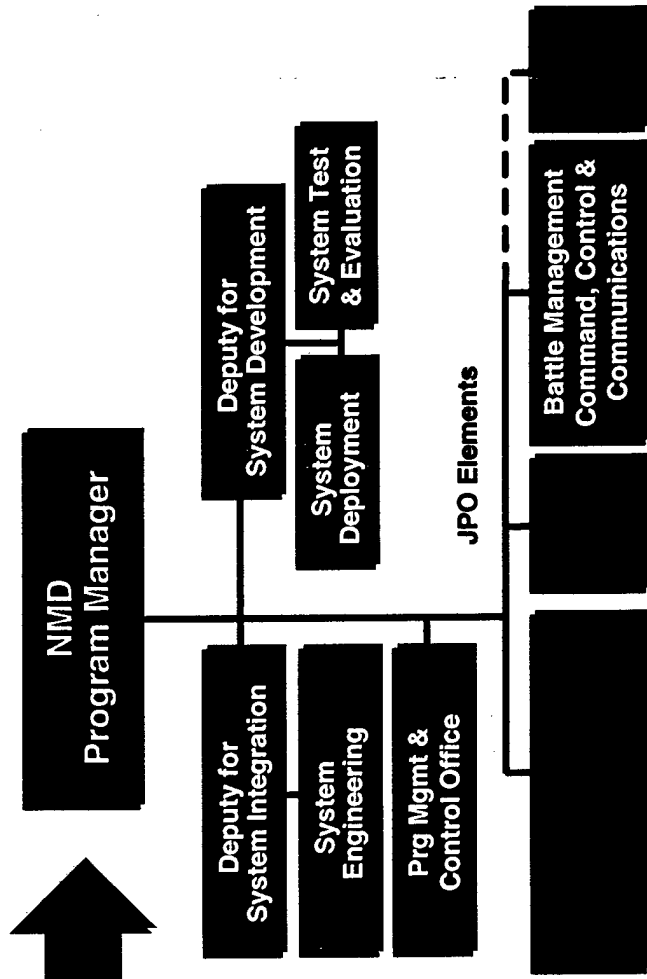
Next Activities:

Area Narrowing Visits to Support Environmental Impact Process

*The Specific Architecture and Site will be
Threat Driven - No Decision Yet*

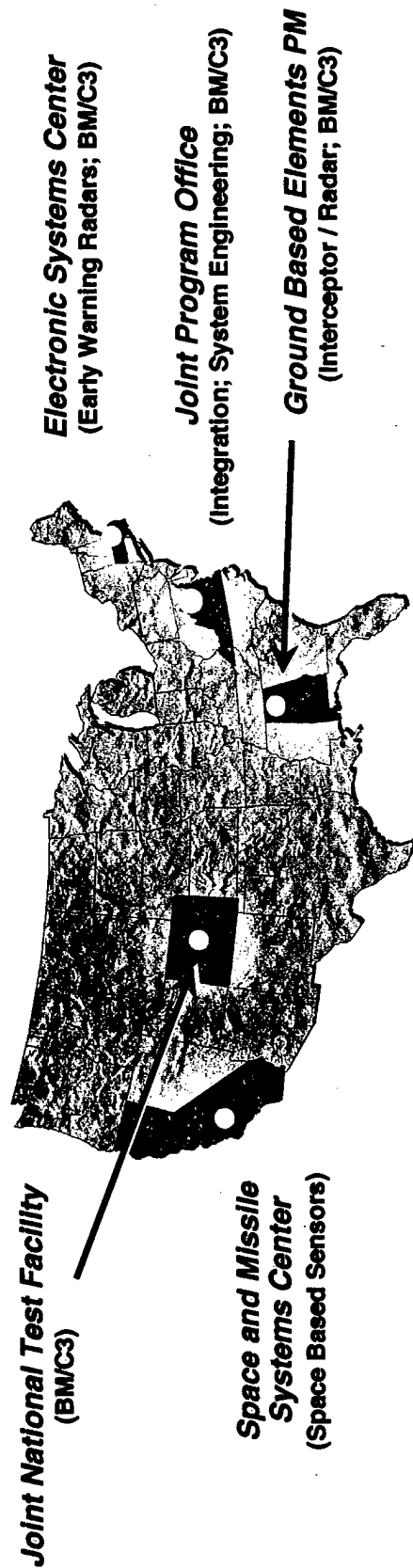


MANAGEMENT APPROACH JOINT PROGRAM OFFICE



Implement "3+3" Strategy

- No Service Lead
- (SPACCOM Supported)
- Federated Organization
- Direct Reporting
- Maximum Use of Prime





CONTRACTING APPROACH LEAD SYSTEM INTEGRATOR

Concept
Definition
Phase

Execution Phase

2 Contractor
Teams
in CD

FY98
Downselect

FY99
Demo

FY00
Deployment
Readiness
Review

UMDC

BOEING

WINNER

Initial System
Development

Continue Evolutionary Development

Maintain Deployment Capability

Initial
Deployment

Upgraded
Capability

Upgraded
Capability

BM/C3

EKV

GBR-P

UEWR

SBIRS Low

- Manufacture and Deploy in 3 years
- Prepare Initial Support Package



BOEING TEAM



Company

- Boeing
- Xontech
- TBE
- Booz-Allen Hamilton
- Logicon
- Photon Research Association
- Ryan Associates
- Schafer
- SRS Technologies
- Raytheon
- TRW

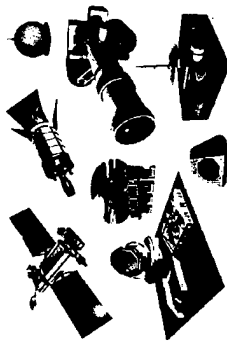
Responsibilities

- Prime
- Sensors
- Test & Evaluation (T&E), System Eng (SE)
- SE, Battle Management Command and Control (BMC3), Test & Evaluation
- SE, Weapon
- SE
- SE, Sensors
- SE, Battle Management Command, Control & Communication, Test & Evaluation, Weapon
- Test & Evaluation, Weapon
- Radar
- Battle Management Command, Control & Communication

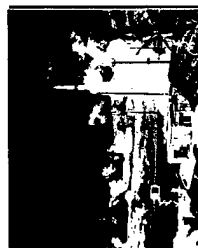


WHAT IS LSI PROVIDING?

Basic Period



Develops the
NMD Elements



Tests and
Demonstrates
NMD Capability



Plans the NMD
Deployment



Produce



Transport



Install



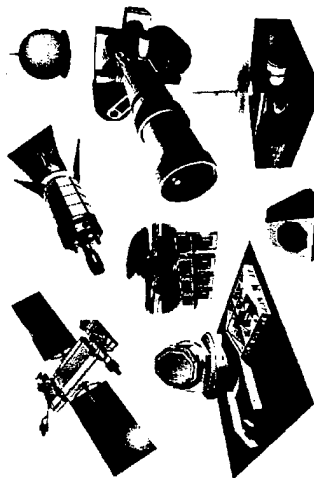
Train

Deployment Option

Deploys the NMD System

Continuing Development

Maintains Deployment Readiness

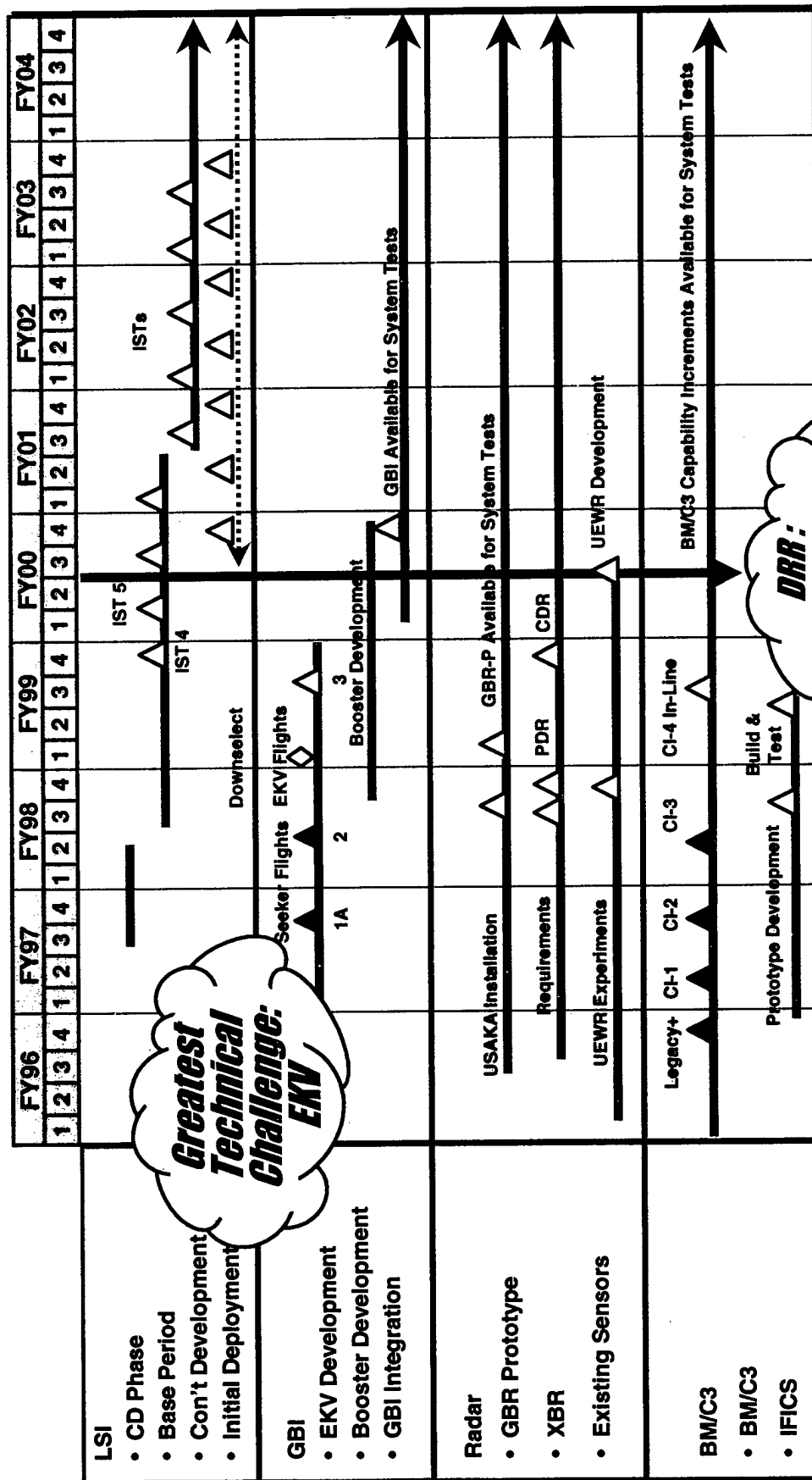


Enhances NMD Capability Through Upgraded Elements

Change in Culture!
No Longer Will the
Technology Programs
have Contracts -- One
LSI Contract ---



NMD PROGRAM SCHEDULE



Greatest Technical Challenge: EKV

DRR: First Deployment Decision Point

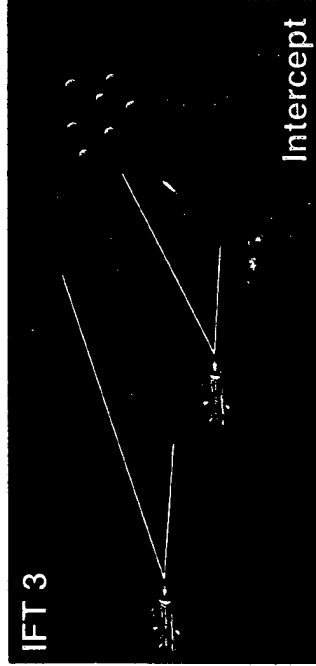
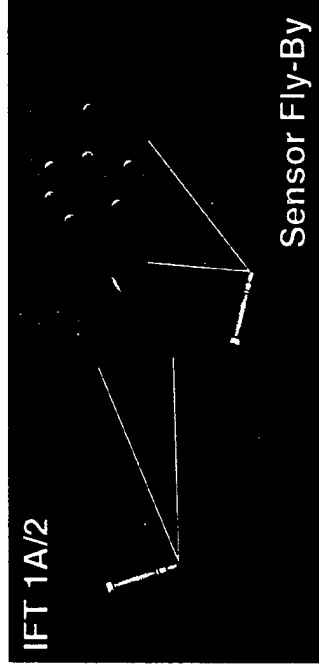


SYSTEM FLIGHT TESTS

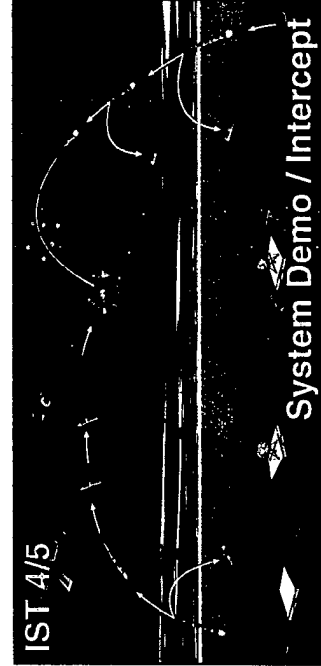
Flights

Program Objectives and Goals

- Risk Reduction for Kill Vehicle Tests
 - Demonstrate Kill Vehicle Sensor Performance
 - Collect Target Signatures to Validate Discrimination Algorithms
- Activate Test Infrastructure



- Demonstrate Target Complex Acquisition
- Demonstrate Onboard Discrimination and Target Selection
- Demonstrate Endgame and Lethality Performance
- Demonstrate Interoperability of Elements



- Demonstrate End-to-End Integrated System Performance
- Demonstrate Endgame and Lethality Performance



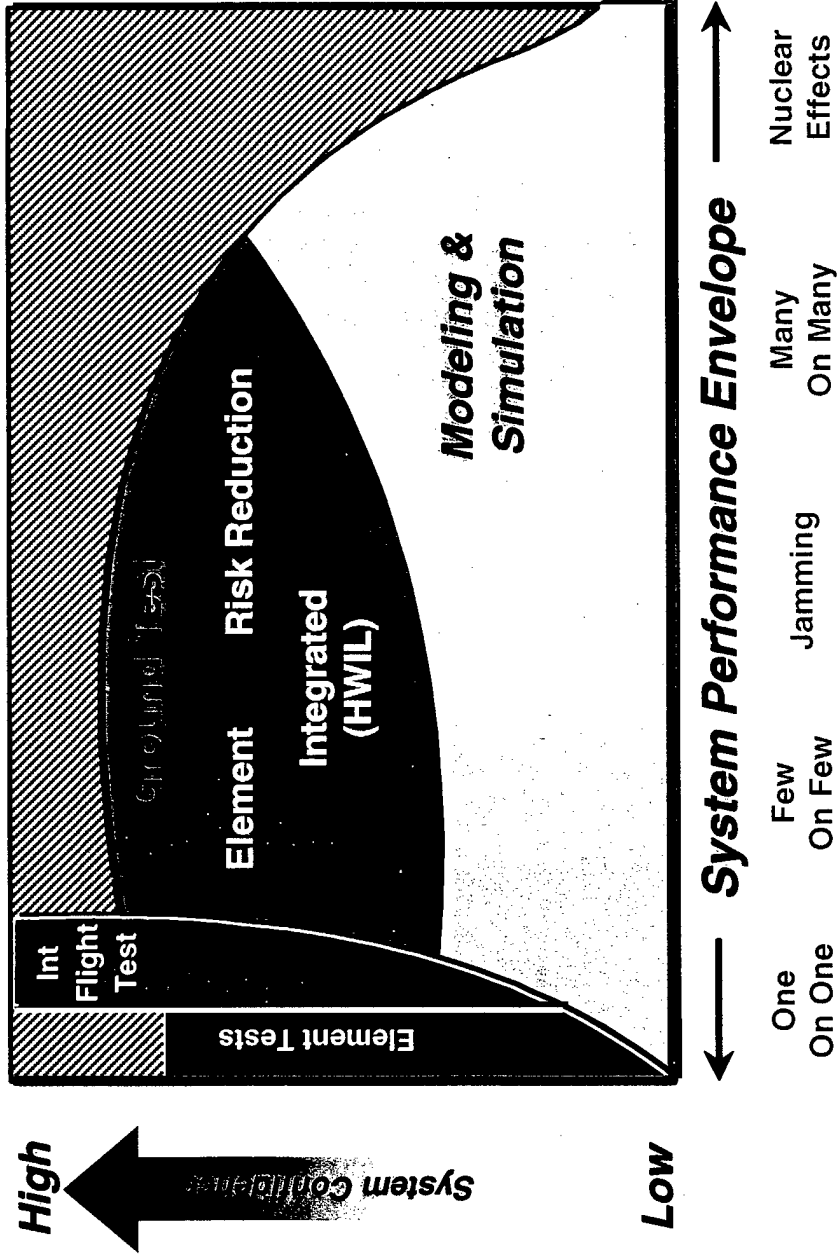
NMD FLIGHT TEST PROGRAM SCHEDULE

FY98				FY99				FY00				FY01			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

LSI Current Program	▲				EKV Selection				Objective Threshold			
	LSI Awarded				▲				IST ▲			
IFTs									▲ DRR ▲			
									Objective Threshold			
					▲				▲			
					3				4			
									5			
									6			
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ESTABLISHING SYSTEM CONFIDENCE



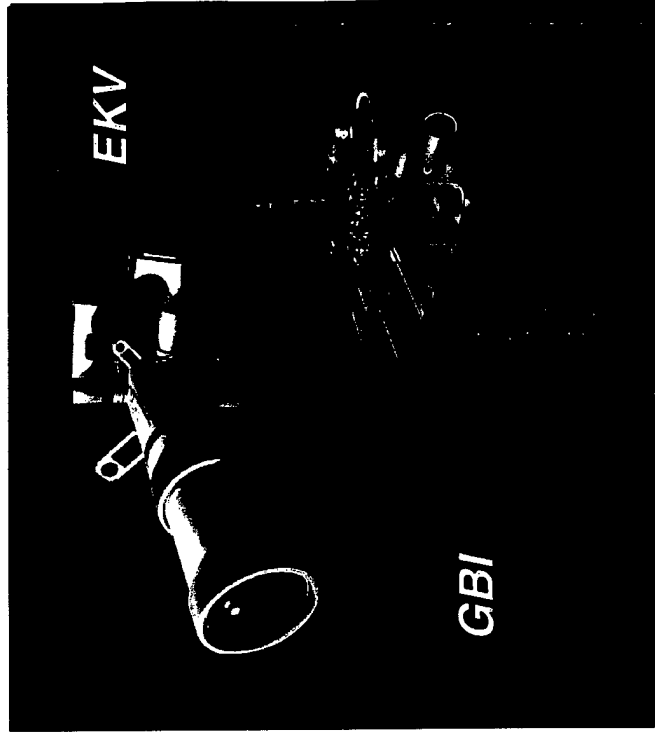
Evaluation of Test Results Establishes System Performance and Confidence Levels



MAJOR DECISIONS THROUGH NOV 98



- Government Select Ground Based Interceptor (GBI) Booster
- Refine Deployment Readiness Review Completion Criteria
- Exo-Atmospheric Kill Vehicle (Interceptor) Selection





MAJOR EVENTS THROUGH NOV 98

- System Functional Review
- Integrated Baseline Review
- Cost As An Independent Variable (Ongoing)
- Senior Department Review

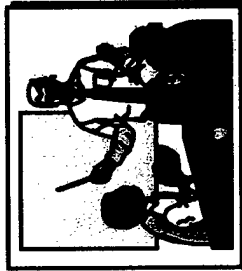




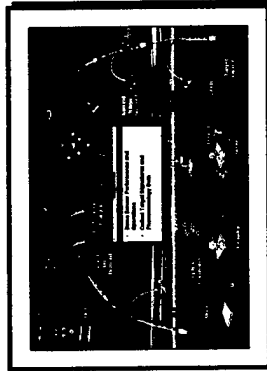
NMD PROGRAM ACCOMPLISHMENTS



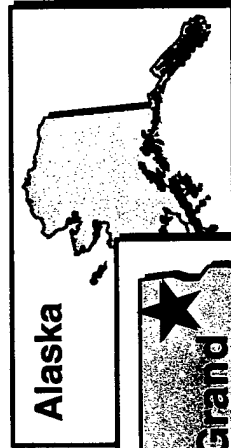
**National Missile Defense
Joint Program Office**



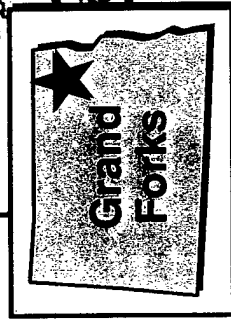
**Defense Acquisition
Board Process**



Integrated Flight Tests 1A & 2

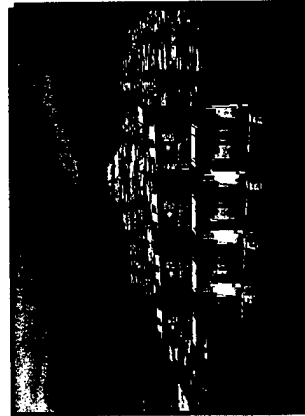


Alaska

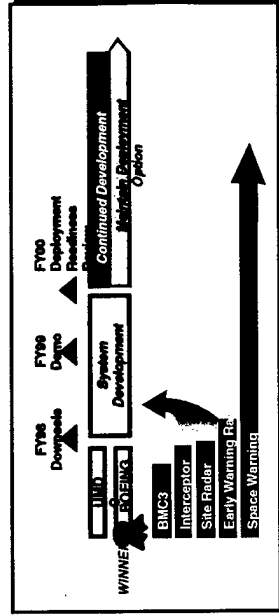


**Grand
Forks**

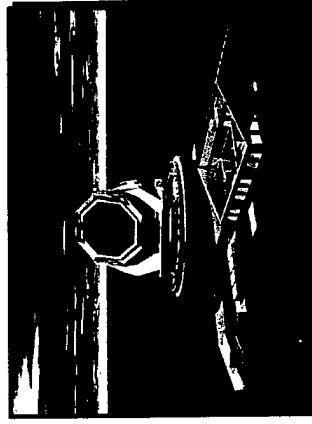
**Site Planning
and Visit**



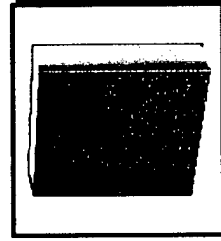
**Battle Management
Cmd, Ctrl, & Comm
Capability
Increment 3**



**Lead System Integrator
- Contract Awarded**



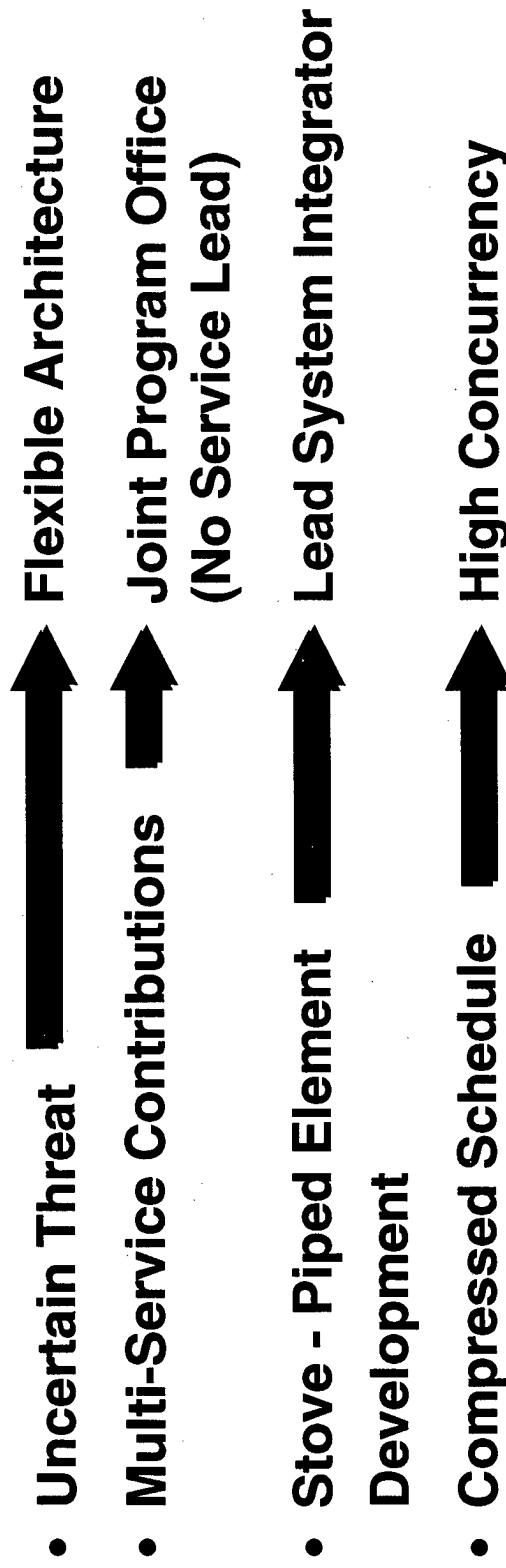
**Construction at
Kwajalein**



**System
Requirements
Documents**



SUMMARY



"3+3" Program
High Schedule Risk...
But Structured and Funded for Greatest Opportunity
to Achieve *Success*